

present, have only single numbers among their species, the number of each genus being either $n = 29$ or $n = 30$ (Manton 1959). *Adiantum pedatum*, which is one of the presumed parents of *A. × tracyi*, has been observed in material from two regions (Vancouver: Manton 1959; and Ontario: Britton 1953) to have $n = 29$. If it can be assumed that this number is characteristic of *A. pedatum* everywhere, then we may suggest that the other presumed parent, the endemic Californian *A. jordani*, which has not yet been examined cytologically, will probably prove to have $n = 30$ chromosomes.

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TAXONOMIC AND NOMENCLATURAL NOTES ON PLATYDESMA (HAWAII) AND A NEW NAME FOR A MELICOPE (SOLOMON ISLANDS)¹

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The genus *Platydesma* was proposed by Horace Mann, Jr. (1866) to include one species, *P. campanulatum* (-a), which had been collected by Mann and W. T. Brigham "on the mountains behind Honolulu." A slightly expanded description is found in Mann (1869). Two species were added to the genus by Hillebrand (1888) in his "Flora of the Hawaiian Islands": *P. cornutum* (-a), from the island of Oahu, and *P. rostratum* (-a), from the island of Kauai. Hillebrand (*op. cit.*) also transferred to *Platydesma* a species described by Asa Gray as *Pelea auriculaefolia* (1854, p. 343; 1857, pl. 36), but this was an error, as Rock (1913, 1918) has shown, for Gray's original placement is correct. Although Hillebrand

¹ Studies in the Hawaiian Rutaceae, I. This paper is the first in a series of studies concerned primarily with the Hawaiian Rutaceae, of which the second and third papers are now in press.

² This work was carried out while the writer was Research Assistant, Botany Department, University of Hawaii, Honolulu. It is an outgrowth of studies for a monograph of the genus *Platydesma*, now in press.



FIG. 1. *Platydesma spathulatum* (Gray) B. C. Stone. Holotype of *Melicope spathulata* Gray (US), collected by United States Exploring Expedition of 1838-42 on mountains of Kauai. (Photo courtesy U. S. Nat. Herb.)

cited the type specimens of *Pelea auriculaefolia* Gray (United States Exploring Expedition of 1838–1842, Mauna Kea, Hawaii), it was perhaps not seen by him. He apparently based his conclusion for the transfer of this species to *Platydesma* upon specimens collected by himself in the Kohala Mountains and on the island of Hawaii and also on a specimen collected by Reverend John Lydgate near Laupahoehoe, Hawaii. These Hillebrand and Lydgate specimens are in fact representatives of *Platydesma* and not of *Pelea*, and may be referred to the distinct species *Platydesma Remyi* (Sherff) Degener, Sherff, & Stone (Degener, 1961), to which *P. campanulatum* var. *sessifolium* (–a) Rock (1913) may also be referred. Rock's description is typified by one of his collections (Rock 4222). *Platydesma Remyi* is based on a collection in the Museum d'Histoire Naturelle of Paris collected by Jules Remy in 1853.

Hector Léveillé (1911) described two species of *Platydesma*, *P. oahuense* (–is) and *P. Fauriei*, but both names are later homonyms, as pointed out by Rock (1914). The first is referable to Mann's original species; the second is not *Platydesma* and is not even rutaceous, but is referable to the solanaceous *Nothoestrum longifolium* Gray.

The species which has been known as *Platydesma campanulatum* is relatively common in the Hawaiian rain-forest, and is met with much more frequently than are the other two species, *P. cornutum* and *P. rostratum*. It is also of wider distribution, at least as presently known, since *P. cornutum* is endemic to Oahu, while *P. rostratum* is found only on Kauai. It is always or nearly always accompanied by such characteristic rain-forest plants as species of *Pelea*, *Fagara*, *Straussia*, and *Gouldia*. It is reasonably well represented in herbaria (much better than the other two species), and thus it is rather unfortunate that the specific epithet must be changed.

The name *Platydesma campanulatum* (–a) Mann was not the first for this species. Some years earlier, Asa Gray (1854) had described it as two different species, *Melicope spathulata* (p. 352) and *M. grandifolia* (p. 354). This fact, suspected by Rock (1918) and later by Skottsberg (1936, although he still used the name *Platydesma campanulatum* in 1944), has not received the formal recognition it requires under the International Code of Botanical Nomenclature. It is necessary, therefore, to choose between Gray's two specific names. The type specimens of both of Gray's species are sterile or nearly sterile. The first, *Melicope spathulata*, is a specimen from Kauai which is in bud (fig. 1). The second, *M. grandifolia*, is a specimen from Hawaii which is altogether sterile (fig. 2). Although the foliage in this second specimen is sufficient for specific placement, it is not entirely reliable for infraspecific placement; nonetheless, this specimen certainly belongs to the same species as the first (*M. spathulata*). Because the type specimen of *M. spathulata* is at least not entirely sterile, being in bud, it seems preferable to use *M. spathulata* rather than *M. grandifolia* as the basionym in the following combination:



FIG. 2. *Platydesma spathulatum* (Gray) B. C. Stone. Holotype of *Melicope? grandifolia* A. Gray (US), collected by United States Exploring Expedition of 1838-42 on Mauna Kea, Hawaii. (Photo courtesy U. S. Nat. Herb.)

Platydesma spathulatum (A. Gray) B. C. Stone, comb. nov.³ *Melicope spathulata* A. Gray, Bot. U. S. Expl. Exped. 15:354. 1854. *M.?* *grandifolia* A. Gray, loc. cit. *Platydesma campanulata* H. Mann, Proc. Boston Soc. Nat. Hist. 10:317. 1866. Hillebrand, Fl. Haw. Ids. 71 (as *campanulata*). 1888. Rock Indig. Trees Haw Ids. 241. 1913. Heller, Minn. Bot. Stud. 1(9):841. 1897. Skottsberg, Acta Horti Gothob. 10:120. 1935; 15:388. 1944. *P. campanulata* var. *macrophylla* Hillebrand, Fl. Haw. Ids. 72. 1888. *P. campanulatum* f. *coriaceum* Rock. Indig. Trees Haw. Ids. 243. 1913. *P. oahuensis* L veill  in Fedde, Rep. Sp. Nov. 10:153. 1911.

In addition to the above transfer of specific epithet, there are two varieties requiring transfer, as follows:

Platydesma spathulatum var. **pallidum** (Hillebr.) B. C. Stone, comb. nov. *P. campanulata* var. *pallida* Hillebrand, op. cit.

Platydesma spathulatum var. **pubescens** (Skotts.) B. C. Stone, comb. nov. *P. campanulata* var. *pubescens* Skottsberg, Acta Horti Gothob. 15:388. 1944.

The type of the genus is now to be called *Platydesma spathulatum*, and *P. campanulata* becomes a synonym. However, the ultimate type of the genus is the type specimen of *P. campanulata* (Mann & Brigham 94, CU; isotypes, 94 or 94-bis, at K, BISH), rather than the type of Gray's *Melicope spathulata* (US).

A species from Bougainville, Solomon Islands, given the name *Melicope grandifolia* by B. L. Burt in 1935, bears a later homonym since Gray's *M. grandifolia* pre mpts that epithet. It is thus necessary to propose the following new name:

Melicope Burtiana B. C. Stone, nom. nov. *M. grandifolia* B. L. Burt, Kew Bull. 1935: 300, non A. Gray, 1854.

Type. Solomon Islands: Bougainville, *Waterhouse B.227* in 1930-31 (US).

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³ Mann used the generic name *Platydesma* as if it were of feminine gender, and was followed in this by several later authors, but the name is one of several in Greek (such as *Geniostoma*) which, though ending in -a, takes a neuter modifier.

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A NEW SPECIES OF GALIUM IN CALIFORNIA

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A completely new and radically different species of *Galium* has been discovered by Mrs. Clare Hardham of Paso Robles. Mrs. Hardham, who has been making a study of the flora of the Santa Lucia Mountains, has found the new *Galium* in six separate localities, almost invariably associated with *Cupressus sargentii* Jepson, which is a well-known indicator of serpentine soils. The new species is diploid ($2n = 22$), highly uniform, and almost certainly primitive and residual.

Its nearest relative would seem to be *Galium clementis* Eastwood, which is another endemic occurring a little farther north on Cone and Junipero Serra (Santa Lucia) peaks. More distantly, the new species is certainly related to *G. californicum* H. & A., *G. nuttallii* Gray, *G. bolanderi* Gray, *G. sparsiflorum* Wight, etc., all of which it resembles in its dioecism and in the possession of fleshy fruits. It differs sharply from all of those species, however, in having six leaves to a node instead of four. *Galium clementis* has generally four leaves to a node, but occasionally six, and stands uniquely, therefore, in an intermediate position between the new species, described herein as *G. hardhamae*, and all of our other berry-fruited species. *Galium hardhamae* differs additionally from *G. clementis* in having a less compact habit, fewer shorter hairs (being consequently of a much darker green), slightly smaller leaves and flowers, and in the succulence of its leaves.

Galium hardhamae is a dioecious perennial growing usually under or near *Cupressus sargentii*, on humous serpentine soil. The plants are low and matted, rooting at the nodes, the flowering branches ascending or weakly clambering, the hispid internodes $\frac{1}{2}$ to $2\frac{1}{2}$ cm. long, mostly much longer than the leaves. The leaves (invariably 6 to a node) are bright green, sparsely hispid, lanceolate, acute, and each tipped with a stout hair. When living, they are fleshy, round above and plane beneath. In the

¹ Contributions from the Jepson Herbarium, number 5.